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10/773,095	02/05/2004	John J. Hart III	ECD-0004CIP	3284

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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/773,095	HART ET AL.	
	Examiner	Art Unit	
	LaTanya Bibbins	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 October 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-47* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7-16,18-24,26-33 and 35-47* is/are rejected.

7)☒ Claim(s) *6,17,25 and 34* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 October 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 31, 2007 has been entered.

2. In the remarks filed on October 31, 2007, Applicant amended claims 12 and 32, added claim 47, and submitted arguments for allowability of pending claims 1-47.

Response to Arguments

3. Applicant's arguments, filed October 31, 2007, with respect to claims 12-22 and 32-47 have been considered but are moot in view of the new grounds of rejection.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. ***Claims 41-46 are rejected under 35 U.S.C. 102(b) as being anticipated by Hart et al. (WO 02/082429 A2).***

Regarding claim 41, a method for modifying an optical path of an optical medium, the optical medium including a first layer adjacent a reflective layer adjacent a data layer (see Figure 2 and the discussion on page 11 line 25 - page 12 line 8) comprising:

selecting a region of the optical medium be distorted (page 22 line 16 and page 24 lines 6-11); and

prior to a reading operation of the medium, distorting the region of the optical medium in the reflective layer adjacent the data layer of the optical medium such that a reading operation of data stored in the data layer corresponding to the distorted region is modified, the distorted region maintaining its optical characteristics following irradiation of the distorted region during the reading operation (see Figure 4 elements 22 and 26 and the discussion on page 12 lines 6-8, page 13 line 30 - page 14 line 2, and page 20 line 16 – page 21 line 14).

Regarding claim 42, Hart discloses wherein the first layer comprises a reading layer (see page 11 line 27).

Regarding claim 43, Hart discloses the method of claim 41 wherein distorting the reflective layer comprises distorting the reflective layer along a path of a track and below a protective outer surface (see page 14 line 25 - page 15 line 11, page 8 line 8-10, and page 5 line 30-page 6 line 19).

Claims 44-46 are drawn to the optical medium corresponding to the method of using same as claimed in claims 41-43 respectively. Therefore optical medium claims

44-46 correspond to method claims 41-43 respectively, and are rejected for the same reasons of anticipation as used above.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-5, 7-16, 18-24, 26-40, and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hart et al. (WO 02/082429 A2).

Regarding claim 1, Hart discloses a method for modifying an optical medium, the medium having a plurality of operational characteristics, each operational characteristic having a predefined limit (see the discussion regarding the size and depth of selective distortion regions on page 6 lines 12-16), comprising:

selecting a region of the medium to be modified (page 6 lines16-26 and page 8 lines 6 and 7) ; and

modifying the medium in the region to have a first actual characteristic prior to a read operation of the medium (see the discussion regarding the size of selective distortion regions on page 6 lines 12-16 and the discussion on page 13 line 30 - page 14 line 2); and

modifying the medium in the region to have a second actual characteristic prior to a read operation of the medium (see the discussion regarding the depth of selective distortion regions on page 6 lines 12-16 and the discussion on page 13 line 30 - page 14 line 2);

such that during a read operation of data stored in the modified region, the read operation is altered in the modified region as a result of the modifications such that the first and second actual characteristics of the modified medium cause a slow-down in the read operation when the modified region is read, the modified region maintaining its optical characteristics following irradiation of the modified region during the read operation (page 8 lines 1-19 and page 14 lines 2-7).

While Hart does not specifically disclose that the first and second actual characteristics are at or near a predefined limit, Hart specifically states that the distortions size and depth may be "as large or small as desired" and "ranging form single microns to several millimeters."

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide selective distortion sizes and depths of any value, including "at or near a predefined limit" as claimed. One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate such selective distortion ranging in degree of severity such that the reading device can respond in the desired fashioned ranging from "reading the underlying data with no error or associated slowdown, to being completely unable to read from that location, and all degrees of distortion between the two extremes" (as stated by Hart on page 8 lines 1-5).

Regarding claim 2, while Hart does not specifically disclose modifying the medium to have a distortion of a size that is approximately the predefined limit of the operational characteristic for distortion size, Hart specifically states that the distortions size and depth may be "as large or small as desired" and "ranging form single microns to several millimeters."

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide selective distortion sizes and depths of any value, including "approximately the predefined limit" as claimed. One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate such selective distortion ranging in degree of severity such that the reading device can respond in the desired fashioned ranging from "reading the underlying data with no error or associated slowdown, to being completely unable to read from that location, and all degrees of distortion between the two extremes" (as stated by Hart on page 8 lines 1-5).

Regarding claim 3, Hart discloses wherein the distortion is formed in a reading layer of the medium through which an optical path is directed (see Figure 4 element 21 and page 14 lines 7-11).

Regarding claim 4, Hart discloses wherein the distortion comprises an air bubble formed in the reading layer, a particle deposited in the reading layer, an indentation formed in an outer surface of the reading layer, or a convex feature formed in an outer surface of the reading layer (see Figure 6 elements 41, 43, 45, and 47 and the discussion on page 15 line 17 - page 16 line 7).

Regarding claim 5, Hart discloses wherein the distortion is formed in a reflective layer of the medium (see Figure 4 elements 22 and 26 and the discussion on page 12 lines 6-8 and page 13 line 30 - page 14 line 2).

Regarding claim 7, while Hart does not specifically disclose spacing apart by a length that is "approximately the predefined limit," Hart discloses wherein modifying the medium comprises modifying the medium to have adjacent distortions that are spaced apart by a length (see page 22 lines 19-26).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide selective distortion spaced apart by a length that is "approximately the predefined limit" as claimed. One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate such selective distortion such that the reading device can respond in the desired fashioned ranging from "reading the underlying data with no error or associated slowdown, to being completely unable to read from that location, and all degrees of distortion between the two extremes" (as stated by Hart on page 8 lines 1-5).

Regarding claim 8, Hart discloses wherein modifying the medium comprises modifying the medium to have a region of increased birefringence (page 6 line 30 – page 6 line 6).

Regarding claim 9, while Hart does not specifically disclose a refraction value that is "approximately at the predefined limit," Hart discloses wherein modifying the medium comprises modifying the medium to have a refraction index value that (page 22 lines 9-18).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the medium to have a refraction index value that is "approximately at the predefined limit" as claimed. One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate such selective distortion such that the reading device can respond in the desired fashioned ranging from "reading the underlying data with no error or associated slowdown, to being completely unable to read from that location, and all degrees of distortion between the two extremes" (as stated by Hart on page 8 lines 1-5).

Regarding claim 10, while Hart does not specifically disclose a reflection value that is "approximately at the predefined limit," Hart discloses wherein modifying the medium comprises modifying the medium to have a reflection value (see . page 22 lines 9-18 where Hart discloses selectable qualities such as transparency, which is directly proportional to reflection).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the medium to have a reflection value that is "approximately at the predefined limit" as claimed. One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate such selective distortion such that the reading device can respond in the desired fashioned ranging from "reading the underlying data with no error or associated slowdown, to being completely unable to read from that location, and all degrees of distortion between the two extremes" (as stated by Hart on page 8 lines 1-5).

Regarding claim 11, Hart discloses wherein the selected region comprises a data region or a pre-track region of a medium (page 24 lines 12-16).

Claims 12-16 and 18-22 are drawn to the optical medium corresponding to the method of using same as claimed in claims 1-5 and 7-11 respectively. Therefore optical medium claims 12-16 and 18-22 correspond to method claims 1-5 and 7-11 respectively, and are rejected for the same reasons of obviousness as used above.

Regarding claim 23, Hart discloses a method for modifying an optical medium, the medium having a plurality of operational characteristics, each operational characteristic having a predefined limit (see the discussion regarding the size and depth of selective distortion regions on page 6 lines 12-16), comprising:

selecting a region of the medium to be modified (page 6 lines16-26 and page 8 lines 6 and 7) ; and

modifying the medium in the region to have a first actual characteristic prior to a read operation of the medium (see the discussion regarding the size of selective distortion regions on page 6 lines 12-16 and the discussion on page 13 line 30 - page 14 line 2); and

modifying the medium in the region to have a second actual characteristic prior to a read operation of the medium (see the discussion regarding the depth of selective distortion regions on page 6 lines 12-16 and the discussion on page 13 line 30 - page 14 line 2);

such that during a read operation of data stored in the modified region, the read operation is altered in the modified region as a result of the modifications such that the

first and second actual characteristics of the modified medium cause a slow-down in the read operation when the modified region is read, the modified region maintaining its optical characteristics following irradiation of the modified region during the read operation (page 8 lines 1-19 and page 14 lines 2-7).

wherein the distortion is formed in a reflective layer of the medium (see Figure 4 elements 22 and 26 and the discussion on page 12 lines 6-8 and page 13 line 30 - page 14 line 2).

While Hart does not specifically disclose that the first and second actual characteristics are at or near a predefined limit, Hart specifically states that the distortions size and depth may be "as large or small as desired" and "ranging form single microns to several millimeters."

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide selective distortion sizes and depths of any value, including "at or near a predefined limit" as claimed. One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate such selective distortion ranging in degree of severity such that the reading device can respond in the desired fashioned ranging from "reading the underlying data with no error or associated slowdown, to being completely unable to read from that location, and all degrees of distortion between the two extremes" (as stated by Hart on page 8 lines 1-5).

Claims 24 and 26-30 are drawn to the optical medium and contain claim limitations identical to those claimed in claims 2 and 7-11. Therefore claims 24 and 26-

30 correspond to claims 2 and 7-11 and are rejected for the same reasons of obviousness as used above.

Regarding claim 31, Hart discloses wherein the reflective layer is adjacent a data layer along a path of a track (see Figure 2 and the discussion on page 11 line 25 - page 12 line 8).

Claims 32, 33, and 35-40 are drawn to the optical medium corresponding to the method of using same as claimed in claims 23, 24, and 26-31 respectively. Therefore optical medium claims 32, 33, and 35-40 correspond to method claims 23, 24, and 26-31 respectively, and are rejected for the same reasons of obviousness as used above.

Claim 47 is drawn to an optical medium modified according to the method of claim 1. Therefore optical medium claim 47 corresponds to method claim 1, and is rejected for the same reason of obviousness as used above.

Allowable Subject Matter

8. **Claims 6, 17, 25, and 34** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 6, 17, 25, and 34, none of the references of record, alone or in combination suggest or fairly teach a method for modifying an optical medium or an optical medium including all of the limitations of claims 1, 12, 23, or 32 wherein modifying the medium comprises modifying the medium to have a distortion of a size

that is approximately the predefined limit of the operational characteristic for distortion size and **wherein the size of the distortion is based on a first size of a physical deformation and a second size of a local corresponding region of increased birefringence** in such a manner that a rejection under 35 U.S.C. 102 or 103 would be proper.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaTanya Bibbins whose telephone number is (571) 270-1125. The examiner can normally be reached on Monday through Friday 7:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LaTanya Bibbins

THANG V. TRAN
PRIMARY EXAMINER